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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,893	02/27/2006	Jean Pierre Plouet	0508-1134	2413

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EXAMINER	
HADDAD, MAHER M	
ART UNIT	**PAPER NUMBER**
1644	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,893	PLOUET ET AL.	
	Examiner	Art Unit	
	Maher M. Haddad	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *27-48* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment, filed on 2/27/06, is acknowledged.

2. Claims 27-48 are pending and being acted upon presently.

Election/Restrictions

3. Restriction is required under 35 U.S.C. 121 and 372.
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

4. In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

I. Claims 27-29, drawn to a method for the screening of angiogenic substances vis-à-vis endothelial cells with a non-angiogenic phenotype, or of anti-angiogenic substances vis-à-vis endothelial cells with an angiogenic phenotype comprising screening said substances with a binary assembly comprising endothelial cells with a non-angiogenic phenotype and endothelial cells with an angiogenic phenotype.

II. Claims 30-32, drawn to a binary assembly comprising endothelial cells with a non-angiogenic phenotype and endothelial cells with an angiogenic phenotype.

III. Claim 33, drawn to a process for preparing endothelial cells with a non-angiogenic phenotype comprising incubating endothelial cells in a medium containing oestradiol and a growth factor.

IV. Claims 34, 38 and 44-45, drawn to a polyclonal or monoclonal antibody directed against endothelial cells with a non-angiogenic phenotype, a Fab fragment thereof and and a pharmaceutical composition thereof.

V. Claim 35-36, drawn to a process for preparing a monoclonal antibody that is capable of activating/inhibiting angiogenesis comprising the steps of: immunizing an animal by injection of cells with an angiogenic phenotype.

VI. Claims 37-38 and 44-45, drawn to anti-idiotypic antibodies directed against antibodies directed against endothelial cells with a non-angiogenic phyenotype, a Fab fragment thereof and a pharmaceutical composition thereof.

VII. Claims 39-40 and 44, drawn to a complex between: an antibody directed against endothelial cells with a non-angiogenic phenotype or antibody that is capable of

inhibiting angiogenesis, angiogenesis activator, and a radioactive element containing an ionizing particle and a pharmaceutical composition thereof.

VIII. Claim 41, drawn to a process for preparing the anti-idiotypic antibodies directed against monoclonal antibodies that are directed against endothelial cells with an angiogenic phenotype.

IX. Claims 42 and 45, drawn to anti-anti-idiotypic antibodies directed against endothelial cells with an angiogenic phenotype, characterized in that said anti-anti-idiotypic antibodies are capable of activating or inhibiting angiogenesis and a vaccine composition thereof.

X. Claim 43, drawn to a process for preparing the anti-anti-idiotypic antibodies, directed against endothelial cells with an angiogenic phenotype.

XI. Claims 46-47, drawn to a method for the treatment of pathologies *requiring inhibition* of endothelial proliferation/activation, comprising administering a polyclonal or monoclonal antibody directed against endothelial cells with a non-angiogenic phenotype.

XII. Claims 46-47, drawn to a method for the treatment of pathologies *requiring inhibition* of endothelial proliferation/activation, comprising administering an anti-idiotypic antibody raised against antibody directed against endothelial cells with a non-angiogenic phenotype.

XIII. Claims 46-47, drawn to a method for the treatment of pathologies *requiring inhibition* of endothelial proliferation/activation, comprising administering an anti-anti-idiotypic antibody.

XIV. Claim 48, drawn to a method for preparing a medicament intended to promote vascularization, comprising a polyclonal or monoclonal antibody directed against endothelial cells with a non-angiogenic phenotype.

XV. Claim 48, drawn to a method for preparing a medicament intended to promote vascularization, comprising an anti-idiotypic antibody raised against antibody directed against endothelial cells with a non-angiogenic phenotype.

XVI. Claim 48, drawn to a method for preparing a medicament intended to promote vascularization, comprising an anti-anti-idiotypic antibody.

4. The inventions listed as Groups I-XVI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The invention of Groups I-II were found to have no special technical feature that defined the contribution over the prior art of Nomura et al (JBC, 270(47):28316-28324,1995) (see entire document).

Nomura et al teach a binary assembly comprising endothelial cells with a non-angiogenic phenotype and endothelial cells with an angiogenic phenotype. Nomura et al teaches a 22-mer antisense oligodeoxyribonucleotide complement of the 5`-region of human VEGF mRNAs (non-angiogenic phenotype) and the corresponding sense oligodeoxyribonucleotide (anigogenic phenotype) was synthesized and administered to the culture medium in which endothelial cells were grown. Furthermore, Nomura et al screen for the effect of hypoxia on angiogenesis using the binary assembly system, 10% O_2 (substance) on enthothelial cell proliferation (thymidine inorporation). Nomura et al teach that the antisense olgodeoxyribonucleotide (non-angiogenic phynotype) was found to inhibit thymidine inorporation (endothelial cell proliferation) into the endothelial cells in a dose-dependent manner. Control sense oligodeoxyribonucleotides (angiogenic phenotype) showed no significant change (see page 28319, 1st col., 1st ¶ in particular). Nomura et al teach that the antisense oligodeoxyribonucleotides block VEGF expression (see page 28319, 2nd col., in particular). Finally, Nomura et al teach that the process of angiogenesis is thought to consist of the four steps, proliferation of endothelial cells is among the steps (see page 28321, under discussion).

Since Applicant's inventions do not contribute a special technical feature when viewed over the prior art they do not have a single general inventive concept and so lack unity of invention.

5. Irrespective of whichever group applicant may elect, applicant is further required under 35 US 121 (1) to elect a single disclosed species to which claims would be restricted if no generic claim is finally held to be allowable and (2) to list all claims readable thereon including those subsequently added.

A. If Group I is elected, applicant is required to elect a single specific mitogenic factor such as a) FGF, b) PDGF, c) VEFG/VEGF or d) EGF. These are distinct species because their structures and modes of action are different.

B. If Group V is elected, applicant is required to elect monoclonal antibody that is capable of a) inhibiting or b) activating. These are distinct process species because they differ with respect to method steps, and endpoints; therefore, each method is patentably distinct.

C. If Group IX is elected, applicant is required to elect a single specific anti-anti-idiotypic antibodies are capable of a) activating or b) inhibiting angiogenesis. These are distinct species because their structures and modes of action are different.

6. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species,** including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

7. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maher Haddad whose telephone number is (571) 272-0845. The examiner can normally be reached Monday through Friday from 7:30 am to 4:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 5, 2007

Maher Haddad

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Primary Patent Examiner
Technology Center 1600